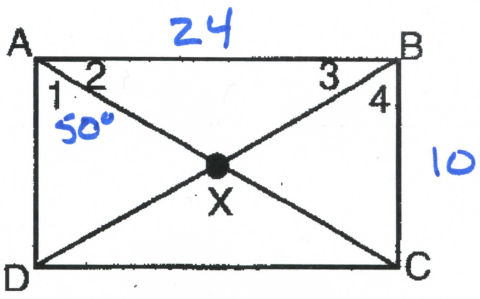
Name ANSWER KEY Period _____

Geometry Unit 8 Worksheet #7 - Rectangles

For #1 – 12, ABCD is a rectangle. If AB = 24, BC = 10 and m∠1=50°, find the following segments and angles.

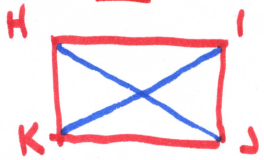
1. CD = 24
2. AD = 10



3. ∠DAB = 90°
4. ∠2 = 40°
5. ∠3 = 40°
6. ∠4 = 50°
7. ∠AXB = 100°
8. ∠BXC = 80°
9. BD = 26 5-12-13 TRIPLE
10. AC = 26
11. AX = 13
12. BX = 13

***HIJK* is a rectangle. Find the value of *x* and the length of each diagonal.**

13. $HJ = x$ and $IK = 2x - 7$



$x = 2x - 7$
$-x \quad -x$
$0 = x - 7$
$+7 \quad +7$
$7 = x$

$x = 7$

DIAGONAL = 7

14. $HJ = 3x + 5$ and $IK = 5x - 9$

$3x + 5 = 5x - 9$
$-3x \quad -3x$
$5 = 2x - 9$
$+9 \quad +9$
$14 = 2x$

$x = 7$

DIAGONAL = 26

15. $HJ = 3x + 7$ and $IK = 6x - 11$

$3x + 7 = 6x - 11$
$-3x \quad -3x$
$7 = 3x - 11$
$+11 \quad +11$
$\frac{18}{3} = \frac{3x}{3}$

$x = 6$

DIAGONAL = 25

16. $HJ = 19 + 2x$ and $IK = 3x + 22$

$19 + 2x = 3x + 22$
$-2x \quad -2x$
$19 = x + 22$
$-22 \quad -22$

$x = -3$

DIAGONAL = 13

U3 WS 7 P2

17. Use the picture to solve for x and y in the rectangle.

$4x - 22 = 2x + 4$

$-2x \quad -2x$

$2x - 22 = 4$

$+22 \quad +22$

$2x = 26$

$\frac{2x}{2} = \frac{26}{2}$

$x = 13$

$5y - 15 = 3y + 3$

$-3y \quad -3y$

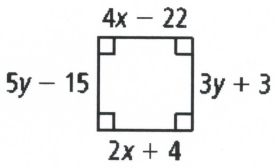
$2y - 15 = 3$

$+15 \quad +15$

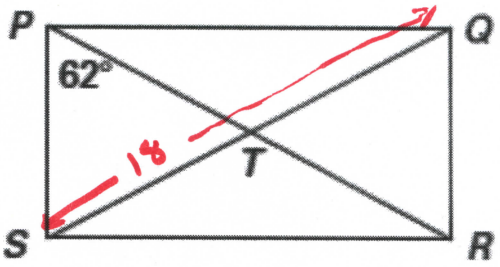
$2y = 18$

$\frac{2y}{2} = \frac{18}{2}$

$y = 9$



PQRS is a rectangle, with m∠RPS = 62° and QS = 18.
Find the following measures.



18. PR = 18

19. PT = 9

20. QT = 9

21. TS = 9

22. ∠PST = 62°

23. ∠PTS = 56°

24. ∠PTQ = 124°

25. ∠TPQ = 28°

26. ∠TQP = 28°

27. ∠RTQ = 56°

28. ∠TQR = 62°

29. ∠TRQ = 62°

30. TREC is a rectangle. Solve for x and y.

$4x - 7 = 2x + 8$

$-2x \quad -2x$

$2x - 7 = 8$

$+7 \quad +7$

$2x = 15$

$\frac{2x}{2} = \frac{15}{2}$

$x = 7.5$

or $7\frac{1}{2}$

or $\frac{15}{2}$

$2y + 6 = 3y + 1$

$-2y \quad -2y$

$6 = y + 1$

$-1 \quad -1$

$5 = y$